DOCKET NO.: RUBC 0046 (99-0002US)

Application No.: 09/763,329
Office Action Dated: January 16, 2003

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-10: canceled.

11. (Currently Amended) A method of making high methionine corn seeds that
produce saturation levels of 10 kDa zein regardless of the dzrl allelic composition of the
seed, comprising the steps of:
a) transforming cells of a corn plant with a vector comprising a chimeric gene
encoding a 10 kDa zein, wherein the chimeric gene comprises a 10 kDa zein coding region
operably linked at its 5' end to a promoter, and at its 3' end to a heterologous 3' UTR;
b) regenerating from the transformed cells a fertile transgenic corn plant
expressing the chimeric gene; and
c) producing seeds from the plant, wherein the seeds express the chimeric
gene, thereby producing saturation levels of the 10 kDa zein regardless of the dzr1 allelic
composition of the seed
a) producing a fertile transgenic corn plant expressing the DNA construct of
claim 1;
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12. Canceled.

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13. (Currently amended) The method of claim 11, wherein the chimeric gene

comprises a of claim-12, in which the promoter is selected from the group consisting of a 27

kDa zein gene promoter, a 27 kDa (O2) zein gene promoter, a 10 kDa zein gene promoter

and an 18 kDa zein gene promoter.

14. (Currently amended) The method chimeric gene of claim 13, wherein the

chimeric gene comprises comprising a 10 kDa zein coding region operably linked to a 27

kDa zein gene promoter and a CaMV 35S gene 3' UTR.

15. Canceled

16. (Currently amended) The method of claim 14, wherein the chimeric gene is

contained in vector of claim 15, which is pJM2710.

17. (Currently amended) A fertile transgenic corn plant produced by the method

of claim 11 which expresses the chimeric gene of claim 13.

18. Canceled.

Claims 19-21: previously canceled.

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22. (New) The method of claim 11, further comprising the step of breeding the fertile transgenic corn plant with another corn plant to produce high methionine seed-producing progeny corn plants.

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- 23. (New) A high methionine seed-producing progeny corn plant produced by the method of claim 22.
- 24. (New) The high-methionine seed-producing corn plant of claim 23, which comprises a *dzr1* dominant negative allele.
- 25. (New) A fertile, transgenic corn plant that produces high methionine corn seeds regardless of the *dzr1* allelic composition of the seed, transformed with a vector comprising a chimeric gene encoding a 10 kDa zein, wherein the chimeric gene comprises a 10 kDa zein coding region operably linked at its 5' end to a promoter, and at its 3' end to a heterologous 3' UTR.
- 26. (New) The transgenic corn plant of claim 25, wherein the chimeric gene comprises a promoter selected from the group consisting of a 27 kDa zein gene promoter, a 27 kDa (O2) zein gene promoter, a 10 kDa zein gene promoter and an 18 kDa zein gene promoter.

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27. (New) The transgenic corn plant of claim 26, wherein the chimeric gene comprises a 10 kDa zein coding region operably linked to a 27 kDa zein gene promoter and a CaMV 35S gene 3' UTR.

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- 28. (New) The transgenic corn plant of claim 27, wherein the chimeric gene is contained in vector pJM2710.
- 29. (New) A high methionine seed-producing progeny corn plant produced by breeding the fertile transgenic corn plant of claim 25 with another corn plant.
- 30. (New) The high methionine seed-producing progeny corn plant of claim 29, comprising a *dzr1* dominant negative allele.